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ABSTRACT

This is the first in a series of annual forecasts of total enrollment in public elementary and secondary schools by state to be issued by the Center for Education Statistics (CES). A table shows states organized by four regions with actual total enrollment for fall 1980 through fall 1986, and enrollment forecast for fall 1987. The percent change from 1985 to 1987 is listed. Technical notes explain the methodology, forecast accuracy, and data sources. CES projects that in fall 1987 total enrollment in public elementary and secondary schools will again reach 40 million. This represents a .3 percent increase over the fall 1986 enrollment of 39.9 million and an increase of 1.2 percent over fall 1985. Between 1985 and 1987, public school enrollment is projected to increase by 4.6 percent in the West and 1.8 percent in the South; the Midwest is expected to experience no significant change; and the Northeast is projected to register a decrease of 1.4 percent. Future state forecasts will contain 5 years of projections. (MLF)

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Contact: Debra E. Gerald
(202) 357-6581

September 1987

State Enrollment in Public Elementary and Secondary Schools

This is the first in a series of annual forecasts of total enrollment in public elementary and secondary schools by State to be issued by the Center for Education Statistics (CES). Its purpose is to highlight projected data for the coming school term. These forecasts are designed for individuals in business, industry, government, the media, and education whose work requires information on projected developments and trends affecting American education. Future State forecasts will contain 5 years of projections.

—Emerson J. Elliott, Director
Center for Education Statistics

Fall 1987: Enrollment Increases Projected

National Highlight

The Center for Education Statistics (CES) projects that in fall 1987 total enrollment in public elementary and secondary schools will again reach 40.0 million. This represents a 0.3 percent increase over the fall 1986 enrollment of 39.9 million and an increase of 1.2 percent over fall 1985.

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Regional and State Highlights

West

The West is projected to register the greatest growth in public school enrollment between 1985 and 1987, increasing by 4.6 percent. Significant growth is expected in Arizona (8.3 percent), Nevada (7.5 percent), California (5.8 percent), Utah (5.7 percent), Alaska (4.8 percent), and New Mexico (3.1 percent). Increases in public school enrollment are also projected in Colorado (2.9 percent) and Washington (2.1 percent).

South

The South is projected to register an increase of 1.8 percent in public school enrollment between 1985 and 1987. The greatest growth is expected in Mississippi (6.1 percent), Florida (4.8 percent), Texas (3.7 percent), and Delaware (2.8 percent).

West Virginia is expected to register a decline of 4.2 percent in public school enrollment between 1985 and 1987.

Midwest

The Midwest is expected to experience no significant change in public school enrollment between 1985 and 1987. However, growth is expected in Kansas (2.2 percent), South Dakota (1.3 percent), and Missouri (1.0 percent).

Decreases are expected in Iowa (2.3 percent) and Michigan (2.1 percent).

Northeast

The Northeast is projected to register a decrease of 1.4 percent in public school enrollment between 1985 and 1987. Decreases are expected in Massachusetts (2.8 percent), New Jersey (2.2 percent), and Pennsylvania (1.6 percent), and New York (1.5 percent).

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Percent change in total public elementary and secondary enrollment, by State: Fall 1985 to fall 1987

Technical Notes

Methodology

This bulletin highlights changes in enrollments between 1985 and 1987. The year 1985 was chosen as a benchmark because it is the first year that national enrollment in public elementary and secondary schools rose after a 13-year decline.

Public school enrollment data used to develop these forecasts are from the Center for Education Statistics, "Common Core of Data" survey. This survey does not provide data on private schools.

Forecasts of enrollment in public elementary and secondary grades are based on a grade retention method. This method starts with 6-year-olds entering first grade and then follows their progress through public elementary and secondary schools. This method assumes that past trends in factors affecting enrollments will continue over the projection period. This assumption implies that all factors influencing enrollment will display future patterns consistent with past patterns. Therefore, this method has limitations when applied to States with unusual growth or decline in enrollment. The method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers to and from private schools.

For each State, enrollments in grades 2 through 12 are projected on the basis of grade retention rates. Kindergarten and first grade enrollments are projected on the basis of enrollment rates using the Bureau of the Census populations of 5- and 6-year-olds as the bases. Elementary ungraded and special, secondary ungraded and special, and postgraduate enrollments are projected to remain constant at their 1986 levels. The grade retention rates and public enrollment rates by age are projected to remain constant at levels consistent with the most recent rates.

Forecast Accuracy

Although the accuracy of past forecasts does not assure that the forecasts in this bulletin will show similar accuracy, an analysis of forecast errors* might help in determining how much weight users should give these forecasts.

The mean absolute percentage error (MAPE) was used to measure forecast accuracy. To compute the MAPE of total enrollment for the Nation and each State, an average of the absolute values of the 1-year-ahead forecast errors was computed from models using data from 1970 to 1986. The MAPE for the forecast of total national enrollment in public elementary and secondary schools was 0.4 percent for 1 year ahead. At the State level, the MAPE's for forecasts of total enrollment ranged from 0.2 percent in Colorado to 2.0 percent in Arizona for 1 year ahead. Most of the States, however, had MAPE's between 0.4 percent and 1.2 percent for 1 year ahead.

Data Sources

The data used to develop the forecasts in this bulletin come from the following sources: (1) U.S. Department of Education, Center for Education Statistics, "Common Core of Data" surveys; (2) U.S. Department of Education, Center for Education Statistics, *E.D.TABS, Public School Enrollment and Staff, 1986-87, Final Tabulations*, in process; and (3) U.S. Department of Commerce, Bureau of the Census, unpublished tabulations.

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For more information about the topics in this bulletin, contact:

Debra E. Gerald
Condition of Education Division
Center for Education Statistics
555 New Jersey Avenue, NW.
Washington, DC 20208-1302
Telephone: (202) 357-6581

*An analysis of projection errors of national forecasts was conducted in 1985. For more information, see *Projections of Education Statistics to 1992-93: Methodological Report with Detailed Projection Tables.*

Table 1.—Total enrollment[1] in public elementary and secondary schools, with forecasts, by State: Fall 1980 to fall 1987

(In thousands)

Region and State	Actual							Forecast Enrollment	Percent change, 1985 to 1987	Mean absolute percentage error (MAPE)[3]
	Fall 1980	Fall 1981	Fall 1982	Fall 1983	Fall 1984	Fall 1985	Fall 1986[2]	Fall 1987		
United States	40,987	40,099	39,652	39,352	39,293	39,513	39,875	40,000	1.2	0.4
Northeast	8,212	7,868	7,673	7,513	7,392	7,316	7,294	7,218	-1.4	0.6
Connecticut	531	505	486	478	468	462	469	466	0.8	1.0
Maine	222	216	212	210	208	206	212	210	2.1	1.5
Massachusetts	1,022	947	909	879	859	844	834	821	-2.8	0.6
New Hampshire	167	164	160	159	156	161	164	164	2.0	1.9
New Jersey	1,246	1,200	1,173	1,148	1,129	1,116	1,107	1,092	-2.2	0.6
New York	2,871	2,761	2,719	2,675	2,646	2,621	2,608	2,582	-1.5	0.5
Pennsylvania	1,909	1,839	1,784	1,738	1,702	1,683	1,674	1,657	-1.6	0.5
Rhode Island	148	143	139	136	134	133	134	134	0.6	0.9
Vermont	96	93	91	90	90	90	92	92	1.6	1.4
Midwest	10,766	10,451	10,227	10,084	9,977	9,948	9,956	9,912	-0.4	0.4
Illinois	1,983	1,924	1,880	1,853	1,834	1,826	1,825	1,831	0.2	1.6
Indiana	1,056	1,025	1,000	984	973	966	967	958	-0.8	0.4
Iowa	534	516	505	497	491	485	481	474	-2.3	0.3
Kansas	415	410	407	405	405	410	416	419	2.2	0.8
Michigan	1,866	1,803	1,762	1,736	1,697	1,690	1,682	1,654	-2.1	0.9
Minnesota	754	734	715	705	702	705	711	711	0.8	0.7
Missouri	845	819	803	795	794	795	801	803	1.0	0.4
Nebraska	280	273	269	267	266	266	267	267	0.6	0.6
North Dakota	117	118	117	117	119	119	119	119	0.3	0.8
Ohio	1,957	1,899	1,860	1,827	1,805	1,794	1,794	1,785	-0.5	0.7
South Dakota	129	126	124	123	123	124	125	126	1.3	0.5
Wisconsin	830	804	785	775	768	768	768	765	-0.5	0.7
South	14,135	13,991	13,947	13,914	13,963	14,123	14,312	14,374	1.8	0.7
Alabama	759	743	724	722	713	730	734	734	0.5	1.8
Arkansas	448	437	433	432	433	433	437	435	0.4	0.8
Delaware	99	95	93	91	92	93	94	96	2.8	0.9
District of Columbia	100	95	91	89	87	87	86	89	2.4	1.9
Florida	1,510	1,488	1,485	1,496	1,524	1,563	1,607	1,638	4.8	1.2
Georgia	1,069	1,056	1,054	1,051	1,062	1,080	1,096	1,100	1.9	1.3
Kentucky	670	658	651	647	644	644	643	635	-1.4	0.9
Louisiana	778	782	784	800	801	793	795	804	1.4	0.6
Maryland	751	722	699	683	674	672	676	678	0.9	0.4
Mississippi	477	472	468	468	466	471	499	500	6.1	0.6
North Carolina	1,129	1,109	1,097	1,090	1,089	1,086	1,085	1,078	-0.8	0.4
Oklahoma	578	583	594	591	590	592	593	593	0.2	0.4
South Carolina	619	609	609	605	603	607	612	616	1.6	0.4
Tennessee	854	838	828	822	817	814	818	812	-0.2	0.4
Texas	2,900	2,936	2,986	2,990	3,040	3,132	3,210	3,249	3.7	0.6
Virginia	1,010	990	976	966	965	968	975	974	0.6	1.0
West Virginia	384	378	375	371	363	358	352	343	-4.2	0.8
West	7,873	7,791	7,805	7,838	7,960	8,126	8,313	8,492	4.6	0.3
Alaska	87	91	89	98	105	107	108	112	4.8	1.7
Arizona	514	507	510	507	530	548	[4]573	590	8.3	2.0
California	4,118	4,046	4,065	4,089	4,151	4,256	4,378	4,504	5.8	0.3
Colorado	546	544	545	542	545	551	558	567	2.9	0.2
Hawaii	165	163	162	162	164	164	165	166	1.4	1.0
Idaho	203	205	203	206	208	209	208	209	0.1	0.4
Montana	155	153	152	154	154	154	153	153	-0.6	0.6
Nevada	149	151	151	150	152	155	161	167	7.5	1.0
New Mexico	271	268	269	270	272	278	282	286	3.1	0.4
Oregon	465	457	448	447	447	448	449	445	-0.5	0.8
Utah	344	356	370	378	390	403	416	426	5.7	0.8
Washington	758	750	739	736	741	750	761	766	2.1	0.8
Wyoming	98	100	102	99	101	103	101	101	-1.4	1.4

[1]Includes most kindergarten and some nursery school enrollment.
[2]Preliminary as of August 15, 1987.
[3]Mean absolute percentage error (MAPE). For more information, see technical notes.
[4]Data represent 100th-day count.

Note:—Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, Center for Education Statistics.
"Common Core of Data" surveys and unpublished tabulations. (This table was prepared August 1987.)